

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

08 FEB 2005

Applicant's or agent's file reference 691803	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International Application No. PCT/AU2003/000413	International Filing Date (day/month/year) 7 April 2003	Priority Date (day/month/year) 9 April 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ G01B 11/04, G07B 17/00, 17/02, G01G 19/00, 19/415, B07C 5/10, 5/16		
Applicant CUBE LOGIC SYSTEMS PROPRIETARY LIMITED et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 7 November 2003	Date of completion of the report 12 July 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer RAJEEV DESHMUKH Telephone No. (02) 6283 2145

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be nonobvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos: 30-52

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claim Nos. 30-52

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

Please see the Supplemental Box.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-29

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 12-18	YES
	Claims 1-11, 19-29	NO
Inventive step (IS)	Claims	YES
	Claims 1-29	NO
Industrial applicability (IA)	Claims 1-29	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

US 6189223 B1 (HAUG) 20 February 2001—*Device for measuring volume*

US 6061645 A (BENGALA et al.) 9 May 2000—*Process and apparatus for measuring the volume of an object*

US 6049386 A (STRINGER et al.) 11 April 2000—*In-motion dimensioning system and method for cuboidal objects*

US 5841541 A (DLUGOS) 24 November 1998—*Apparatus and method for dimensional weighing utilizing a rotating sensor*

US 5815274 A (DLUGOS) 29 September 1998—*Method for dimensional weighing by spaced line projection*

US 5770864 A (DLUGOS) 23 June 1998—*Apparatus and method for dimensional weighing utilizing a laser scanner or sensor*

US 5734476 A (DLUGOS) 31 March 1998—*Method for dimensional weighing with optics*

US 5719678 A (REYNOLDS et al.) 17 February 1998—*Volumetric measurement of a parcel using a CCD line scanner and height sensor*

NOVELTY (N), INVENTIVE STEP (IS) CLAIMS 1-10, 19-29

Each cited document discloses a dimensional weighing apparatus using (non-contact) optical sensors to calculate the volume of a parcel and therefrom to calculate the applicable postage for the parcel. Claims 1-10 and 19-29 are therefore not novel and consequently do not involve an inventive step in light of any one of the cited documents.

NOVELTY (N), CLAIM 11, AND INVENTIVE STEP (IS) CLAIMS 11-18

Each cited document discloses a dimensional weighing apparatus using optical sensors to calculate the volume of a parcel and to calculate the applicable postage for the parcel. However, the cited documents do not disclose placement of the parcel on a turntable of the weighing machine and rotating the parcel. Therefore the invention as defined in claims 12-18 appears to be novel. However, in HAUG the camera and the transparent surface move in the three spatial dimensions. In DLUGOS (US5841541), the sensor can be rotated (column 4, lines 25-28). In DLUGOS (US 5815274), the emitter apparatus is moved around the parcel. In the other cited documents, dimensional weighing is carried out when the parcel is moving on a linear direction on a conveyor belt.

The relative rotation between the sensor and the parcel, as defined in claim 11, is disclosed by the cited documents and therefore claim 11 does not appear to be novel. Additionally, in light of any one of the cited documents having a relative movement between the parcel and the sensor, it would be an obvious choice for the person skilled in the art to keep the sensor fixed and to move the parcel. Consequently claim 11 is not novel, and further claims 11-18 do not involve an inventive step.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The applicant was invited to insert—into the description—references to the prior art cited in the International Search Report and to discuss the invention in relation to these references, so as to put the invention into a proper perspective. The applicant has not responded to this invitation.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box IV

The application has 13 independent claims, numbered 1 (dimensional weighing apparatus), 30 (computer software), 33 (determining dimensional weight), 34 (determining dimensional weight by providing a turntable), 35 (weight determining apparatus with control means), 36 (parcel cubing and weighing unit), 37 (apparatus intercepting weight data), 38 (obtaining and analysing a profile), 41 (controller for determining dimensional weight), 46 (means for rotating, controller), 47 (turntable and controller), 48 (360 degree profile), and 52 (monitoring a parcel).

Each claim is characterised by its own features as defined in the specification. These features have not been itemised here for the sake of brevity.

The only common feature linking all the claims is the concept of "dimensional weighing", i.e. determining a parcel's volume and multiplying this volume by a suitable amount ("minimum charging weight per unit volume") to arrive at a minimum charging weight of the parcel. As admitted in the specification, the concept of dimensional weighing is known in the art. Due to the large number of independent claims and the variety of their technical features, it was not possible to provide a good estimate of the likely search effort involved. However it was clear that the searches would have to cover a number of Int.Cl.7 areas, e.g. G01B, G01G, G01D, G07B, B07C, and G06F.

Compared to the effort involved in searching a single invention, it appeared that the present search would require at least three times as much effort. The claimed inventions can be roughly grouped as the main invention ("dimensional weighing"), use of sensors, analysis of sensor data and profile, providing a control means for outputting weight, parcel rotation and turntable, computer software for dimensional weighing, and, parcel monitoring system. Even though there are numerous inventions, searching could have been efficient if the different inventions are searched together. Therefore the estimated search effort was at least three times the search effort for a single invention, and the applicant was invited to pay additional search fees for two inventions.

As the additional fees requested were not paid by the applicant, the International Search Report was drawn up only in relation to Claims 1-29. Therefore the International Search Report has not been established in relation to Claims 30-52.